U.S.S.N.: 10/707,377   2   81072995/202-1333 (FGT 1857 PA)

In the Claims:

Claim 1 (Currently Amended): A pre-crash sensing system for a vehicle, comprising:

at least one sensor <u>repeatedly</u> [[for]] detecting at least one object external to the vehicle; and

a controller coupled to said at least one sensor<u>;</u>

<u>said controller selectively generating an object classification list;</u>

<u>said classification list for transmission to a safety countermeasure system;</u>

<u>said controller updating said object classification list one time for each of said at least one object.</u>

~~and intended to selectively generate an identification list and an object classification list for transmission to a safety countermeasure system.~~

Claim 2 (Original): The pre-crash sensing system as recited in claim 1 wherein said at least one sensor is utilized for detecting at least one parameter of said at least one object, said at least one sensor transmitting said at least one parameter to said controller, said controller selectively processing said at least one parameter to generate said object identification list and said object classification list.

Claim 3 (Original): The pre-crash sensing system as recited in claim 2 wherein at least one parameter includes at least one of a height, a width, a depth, a range, a range rate, an angle, and a visual feature.

Claim 4 (Original): The pre-crash sensing system as recited in claim 1 wherein said at least one sensor includes at least one of a visual-imaging camera and an electro-magnetic wave-ranging device.

Claim 5 (Cancelled)

Claim 6 (Original): The pre-crash sensing system as recited in claim 4 wherein said visual-imaging camera is selected from the group consisting of a monocular camera and a binocular camera.

Claim 7 (Original): The pre-crash sensing system as recited in claim 4 wherein said electro-magnetic wave-ranging device is selected from the group consisting of a radar device, a lidar device, and a stereo camera pair ranging device.

Claim 8 (Currently Amended): The pre-crash sensing system as recited in claim 2 wherein said controller comprises:

an object-tracking module for storing an object identification list said object identification list and said object classification list, said object identification list including a plurality of identities of previously detected objects as defined by a plurality of archived parameters;

a process-determining module coupled to said object-tracking module and said at least one sensor, said process-determining module for receiving said object identification list from said object-tracking module and receiving said at least one parameter from said at least one sensor, said process-determining module for determining that said object is a previously undetected object; and

an object-classifying module coupled to and actuated by said process-determining module, said object-classifying module for identifying said at least one object and updating said object identification list stored in said object-tracking module, said object-classifying module for classifying said object into a predetermined category and updating said object classification list stored in said object-tracking module.

Claim 9 (Currently Amended): The pre-crash sensing system as recited in claim 2 wherein said controller comprises:

an object-tracking module for storing an object identification list said object identification list and said object classification list, said object identification list including a plurality of identities of previously detected objects as defined by a plurality of archived parameters;

a process-determining module coupled to said object-tracking module and said at least one sensor, said process-determining module receiving said object classification list from said object-tracking module and receiving said at least one parameter from said at least

one sensor, said process-determining module for determining that said at least one object is a previously unclassified object; and

an object-classifying module coupled to and actuated by said process-determining module, said object-classifying module for classifying said object into a predetermined category and updating said object classification list stored in said object-tracking module.

Claim 10 (Currently Amended): The pre-crash sensing system as recited in claim 2 wherein said controller comprises:

an object-tracking module for storing an object identification list ~~said object identification list~~ and said object classification list, said object identification list including a plurality of identities of previously detected objects as defined by a plurality of archived parameters;

a process-determining module coupled to said object-tracking module and said at least one sensor, said process-determining module receiving said object classification list from said object-tracking module and receiving said at least one parameter from said at least one sensor, said process-determining module for determining that said at least one object requires an updated classification; and

an object-classifying module coupled to and actuated by said process-determining module, said object-classifying module for classifying said object into a predetermined category and updating said object classification list stored in said object-tracking module.

Claim 11 (Currently Amended): A method for operating [[the]] a pre-crash sensing system for a vehicle, comprising: ~~recited in claim 1, comprising:~~

utilizing at least one sensor for detecting at least one object located external to the vehicle;

utilizing a controller for producing a queue of said at least one object; and

utilizing said controller for individually determining that each of said at least one object requires that an object classification list is updated; [[,]]

said object classification list being stored in [[a]] said controller; [[.]]

said controller coupled to said at least one sensor and intended to selectively generate an object identification list and an object classification list;

said object classification list for transmission to a safety countermeasure system.

Claim 12 (Original): The method as recited in claim 11 wherein utilizing said at least one sensor comprises:

utilizing at least one of a visual-imaging camera and an electro-magnetic wave-ranging device for detecting at least one of a height, a width, a depth, a range, a range rate, an angle, and a visual feature associated with said at least one object.

Claim 13 (Original): The method as recited in claim 11 wherein individually determining that each of said at least one object requires that said object classification list is updated comprises:

determining that each of said at least one object has been previously classified.

Claim 14 (Original): The method as recited in claim 11 wherein individually determining that each of said at least one object requires that said object classification list is updated comprises:

determining that said at least one object is associated with an outdated classification.

Claim 15 (Original): The method as recited in claim 11 further comprising:

transmitting said object classification list to a safety countermeasure system of the vehicle.

Claim 16 (Currently Amended): A method for operating [[the]] a pre-crash sensing system for a vehicle, comprising: recited in claim 1, comprising:

utilizing at least one sensor for detecting at least one object located external to the vehicle;

utilizing a controller for producing a queue of said at least one object; and

utilizing said controller for individually determining that each of said at least one object requires that at least one of an object identification list and an object classification list is updated; [[,]]

said object identification list and said object classification list being stored in [[a]] said controller; [[.]]

said controller coupled to said at least one sensor and intended to selectively generate said object identification list and said object classification list;

said object classification list for transmission to a safety countermeasure system.

Claim 17 (Original): The method as recited in claim 16 wherein utilizing said at least one sensor comprises:

utilizing at least one of a visual-imaging camera and an electro-magnetic wave-ranging device for detecting at least one of a height, a width, a depth, a range, a range rate, an angle, and a visual feature associated with said at least one object.

Claim 18 (Original): The method as recited in claim 16 wherein individually determining that each of said at least one object requires that said object classification list is updated comprises:

determining that each of said at least one object has been previously unclassified.

Class 19 (Original): The method as recited in claim 16 wherein individually determining that each of said at least one object requires that said object classification list is updated comprises:

determining that said at least one object is associated with an outdated classification.

Claim 20 (Original): The method as recited in claim 16 further comprising:

storing at least one of an updated object identification list and an updated object classification list in an object-tracking module within said controller at the end of an image processing cycle.

Claim 21 (New): A pre-crash sensing system for a vehicle, comprising:

at least one sensor detecting at least one object external to the vehicle; and

a controller coupled to said at least one sensor and selectively generating an object identification list and an object classification list;

said object classification list for transmission to a safety countermeasure system;

said controller producing a queue of said at least one object;

said controller determining that each of said at least one object individually requires that said object classification list is updated;

said object classification list stored in said controller.

Claim 22 (New): The pre-crash sensing system recited in claim 21 wherein said controller determines that each of said at least one object individually requires that said object identification list is updated.

Claim 23 (New): The pre-crash sensing system recited in claim 21 wherein said controller determines that said object classification list requires updating one time for each of said at least one object.

Claim 24 (New): The pre-crash sensing system recited in claim 21 wherein said at least one sensor repeatedly detects said at least one object over a series of sensing cycles and said controller updates said object classification list the first time each of said at least one object is processed by said controller.

Claim 25 (New): The pre-crash sensing system recited in claim 21 wherein said object classification list includes at least one previously classified object and at least one predetermined category.

Claim 26 (New): The pre-crash sensing system recited in claim 25 wherein said controller executes a classification subroutine when said at least one object is omitted from said object classification list;

said classification subroutine classifying said at least one object into at least one predetermined category for updating said object classification list.

Claim 27 (New): The pre-crash sensing system recited in claim 26 wherein said controller bypasses a classification subroutine when said at least one object is included in said object classification list.